MIRAGE

M-800 MULTI-ZONE
DIGITAL AMPLIFIER

AUTONOMIC

IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this device near water.
6. Clean only with a dry cloth.
7. Do not block any ventilation openings, Install in accordance with the manufacturer's instructions.
8. Ensure that the ventilation is not impeded by covering the ventilation openings with items such as newspapers, table cloths, curtains, etc.
9. Do not install near any heat source such as radiators, heat registers, stoves or other devices (including amplifiers) that produce heat.
10. Use the device only in moderate climates (not in tropical climates).
11. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
12. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles and the point where they exit from the device.
13. Only use the attachments / accessories specified by the manufacturer.
14. If you install the device in a built-in installation, such as a bookcase or rack, ensure that there is adequate ventilation. Leave 20cm (8") of free space at the top and sides and 10cm (4") at the rear. The rear edge of the shelf or board above the device should be set 10cm (4") away from the rear panel or wall, creating a flue-like gap for warm air to escape. Good airflow is necessary to help ensure proper operation. Not only should you provide enough free space around the device, but also ensure that air can flow freely and escape from the device's surroundings. Failure to do so may cause thermal shutdown of the device, and reduced life expectancy.
15. Unplug this device during lightning storms or when unused for long periods of time.
16. Never expose the device to moisture.
17. Refer all servicing to qualified service personnel. Servicing is required when the device has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the device. The device has been exposed to rain or moisture, does not operate normally, or has been dropped.
18. Damage requiring service. Unplug the device from the wall outlet and refer servicing to qualified service personnel under the following conditions:

    a. When the power supply cord or plug is damaged.
    b. If liquid has been spilled, or objects have fallen into the device.
    c. If the device has been exposed to rain or water.
    d. If the device does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the device to its normal operation.
    e. If the device has been dropped or damaged in any way.
    f. When the device exhibits a distinct change in performance this indicates a need for a service.

19. Object and Liquid Entry.
    Never push objects of any kind into the device through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. The device should not be exposed to dripping or splashing and no objects filled with liquids, such as vases, should be placed on the device. Don't put candles or other burning objects on top of this device.

WARNING:
TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

PRECAUTIONS

1. **AC Fuse**
   The AC fuse inside the device is not user-serviceable. If you cannot turn on the device, contact the dealer from whom you purchased this device.

2. **Care**
   Occasionally you should dust the device all over with a soft cloth. For stubborn stains, use a soft cloth dampened with a weak solution of mild detergent and water. Dry the device immediately afterwards with a clean cloth. Don't use abrasive cloths, thinners, alcohol, or other chemical solvents, because they may damage the finish or remove the panel lettering.

3. **Power**
   WARNING
   BEFORE PLUGGING IN THE DEVICE FOR THE FIRST TIME, READ THE FOLLOWING SECTION CAREFULLY.
   AC outlet voltages vary from country to country. Make sure that the voltage in your area meets the voltage requirements printed on the device's rear panel. (e.g. AC 90V – 240V 50/60HZ) The power cord is used to disconnect this device from the AC power source. Make sure that the plug is readily operable (easily accessible) at all times. If you do not intend to use the device for an extended period, remove the power cord from the AC outlet.

4. **Ground**
   The device is defined as Class1 in EN60065 (low voltage directive) and MUST BE GROUNDED. Connect only to an outlet with protective ground, and only use the power cord supplied.
   Finland: "Laite on Liitettävä suojamaadoituskoskettimilly varustettun pistorasiaan"
   Norway: "Apparatet må tilkoples jordet stikkontakt"
   Sweden: "Apparaten skall anslutas till jordat uttag"

5. **Never Touch This Device With Wet Hands**
   Never handle this device or its power cord while your hands are wet or damp. If water or any other liquid gets inside this device, have it checked by your Autonomic dealer.

6. **Handling Notes**

   a. If you need to transport this device, use the original packaging to pack it how it was when you bought it.
   b. Do not leave rubber or plastic items on this device for a long time as they may leave marks on the case.
   c. This device's top and rear panels may get warm after prolonged use. This is normal.
   d. If you do not use this device for a long time, it may not work properly the next time you turn it on, so be sure to use it occasionally.

7. **Speaker Shorts**
   Under no circumstances should the speaker output terminals of the device be short circuited, grounded or connected to another output.

8. **Direct Sun light**
   Avoid installing the device in positions where the front panel is exposed to direct sunlight – may cause control to become sluggish.

9. **Controller Connection**
   Never connect more than eight keypads. The supply is internally fused (self resetting) and may open circuit. Never connect the device's 12VDC terminal ("Bus Run" port) to an external power supply.

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DECLARATION OF CONFORMITY

We declare under our sole responsibility that this product, to which this declaration relates, is in conformity with the following standards: EN60065, EN55013, EN55020, EN61000-3-2 and EN61000-3-3. Following the provisions of Low Voltage Directive 2006/95/EC and EMC Directive 2004/108/EC, the EC regulation 1275/2008 and its frame work Directive 2009/125/EC for Energy-related Products (ErP).

A NOTE ABOUT RECYCLING:

This product's packaging materials are recyclable and can be reused. Please dispose of any materials in accordance with the local recycling regulations.

When discarding the device, comply with local rules or regulations. Batteries should never be thrown away or incinerated but disposed of in accordance with the local regulations concerning battery disposal.
This product and the supplied accessories constitute the applicable product according to the WEEE directive.

FOR U.S. MODELS

FCC information for User.

CAUTION:

The user changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Note: This equipment has been tested and found to comply with the limits for a Class B digital devices, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

SUPPLIED ACCESSORIES

Make sure you have the following accessories:

- **IEC60320-1 Coupler (C-14 Male Plug)**
- **Rack Mount Ears**

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A digital copy of this manual can be found at http://www.autonomic-controls.com/support_documentation.php

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FEATURES

Thank you for purchasing an M-800 Mirage Multi-Zone Amplifier.
Please read this manual thoroughly before making connections and plugging in the device.
Following the instructions in this manual will enable you to obtain optimum performance and listening enjoyment from your new Multi-Zone Amplifier. Please retain this manual for future reference.

Multi-Zone, Multi-Source Switching

The M-800 amplifier has six separate amplifiers and two separate preamplifiers, providing 8 zones of independent yet integrated control. There are 8 input sources comprising the following:

- Sources 1 – 8 are either Analog Stereo, or Coax Digital Audio (PCM).
- Sources 7 & 8 are either Coax (PCM) or Optical Digital Audio (TOSLINK)

Preamplifiers and Outputs

Each zone has bass, treble, balance and loudness control. These are accessed from the front panel or Mirage Web Interface program.
A feature called "Maximum Volume limiting", is useful for protecting connected speakers. It may be applied to both amplifier and preamplifier outputs.

Amplifier Power, Protection, and Clipping Indicators

50 Watts RMS per channel into 8 ohm loads. Capable of driving into 4 ohm loads. The amplifiers are protected against output shorts, and have algorithms that prevent hard clipping when the zone amplifiers are overdriven.

Thermal Control

There are two progressive levels of thermal control:

- The amplifier volume is reduced 20dB.
- The amplifiers are shutdown until the temperature reduces below the first level.

Care should be taken to ensure adequate ventilation – see "Important safety instructions" on page 2

Ethernet, RS232, USB and IR Control

The M-800 amplifier may be controlled and monitored via the rear Panel USB, RS232 serial interface or Ethernet. In multi-amplifier installations where the amplifiers are interconnected using an expansion bus cable, only one Ethernet or RS232 connection is required to control the stack of amplifiers. An M-800 amplifier may receive IR directly from the front panel receiver. There are zone specific IR commands and also a set of global IR commands.

The commands are:

- ON
- OFF
- Standby (toggling)
- Mute
- Volume Up
- Volume Down
- Source Selects
- Discrete Audio Source Selects
- On with Source Specific commands

Real Time Clock

The M-800 amplifier is equipped with a real time clock. The clock automatically compensates for daylight saving time if configured to do so. The clock continues to operate typically > 48 hours without power (more than enough to keep the time current during lengthy power outages).

IR Emitter Ports

There are 10 Buffered IR emitter Ports.
Ports 1 – 8 have IR routing, and are intended to control specific input source components. Two IR ports 9 & 10 are the sum of all IR sources; these control the "All" zone source components.

Zone Linking

A zone may be programmed to link multiple zones. Zone linking ties the source selection together. It may also tie the volume and standby. This is useful for closely coupled audio areas where it is advantageous to have different volume control but the same source, or the same volume with separate standby control. Zone linking is setup either via the front panel user interface or web config.

96 Zones

There are 96 zones of possible control. On an M-800 amplifier each zone must be different, however in a multiple amplifier stack, same zone amplifiers are possible (they simply mimic every parameter).

Expansion Bus

Data & IR are interconnected via the expansion bus.
One amplifier is connected to another using a standard RJ45 patch cable. Connections are made between amplifiers using either of the two RJ45 expansion bus sockets.

Discrete Audio Selection

Audio selection may be independent. There are RS232 and IR Discrete control commands available.

Power Failure Restoration

After an AC power outage the M-800 amplifier restores its settings to the pre-interrupted state. All internal settings are stored in non-volatile memory, except the clock that runs for at least 48 hours on stored power.

Restore Defaults

The M-800 amplifier may be readily set to the default settings. Restoring defaults clears all memory and resets the zone allocations to zones 1 – 8. It will also reset any custom zone and source names to default (Zone 1 and S1, for example).

Firmware Upgradable

The M-800 amplifier may be updated with the latest operational firmware. See www.Autonomic-Controls.com for support.

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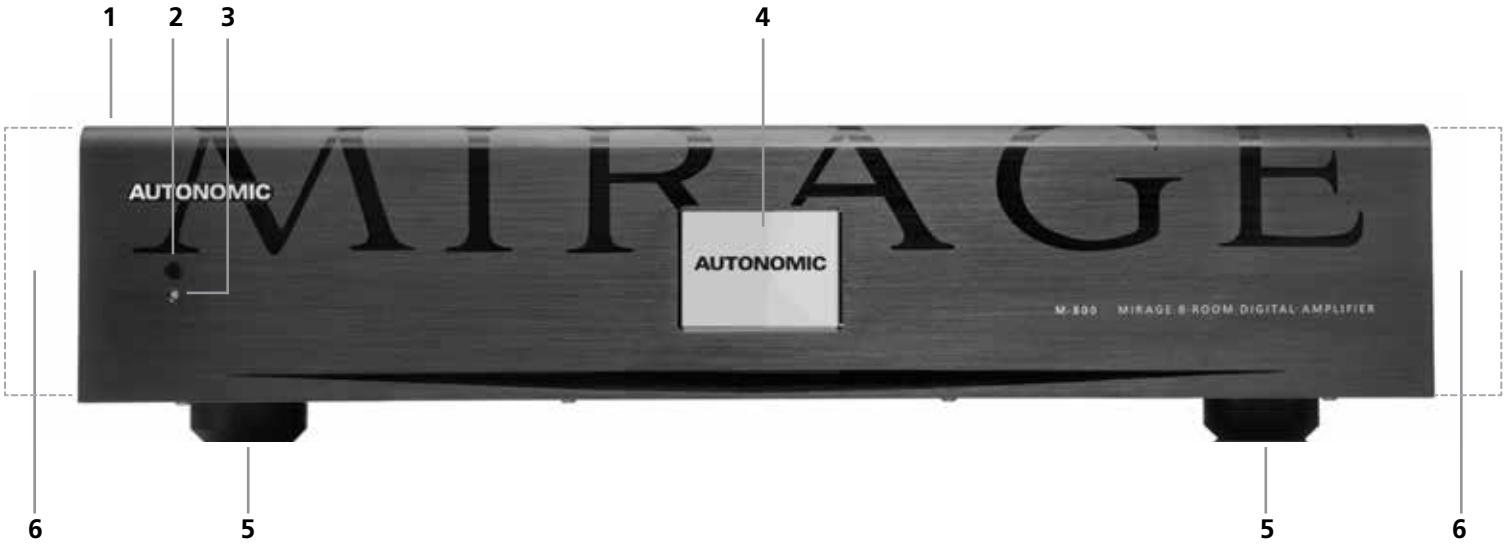
FRONT PANEL GUIDE



1. **Front Panel**
   Solid aluminium front panel.

2. **Infrared Receiver**
   Receiver for front panel IR control (Used only for amplifier control, not IR pass through). No IR Remote supplied, however an IRC profile is located at www.Autonomic-Controls.com/Support/

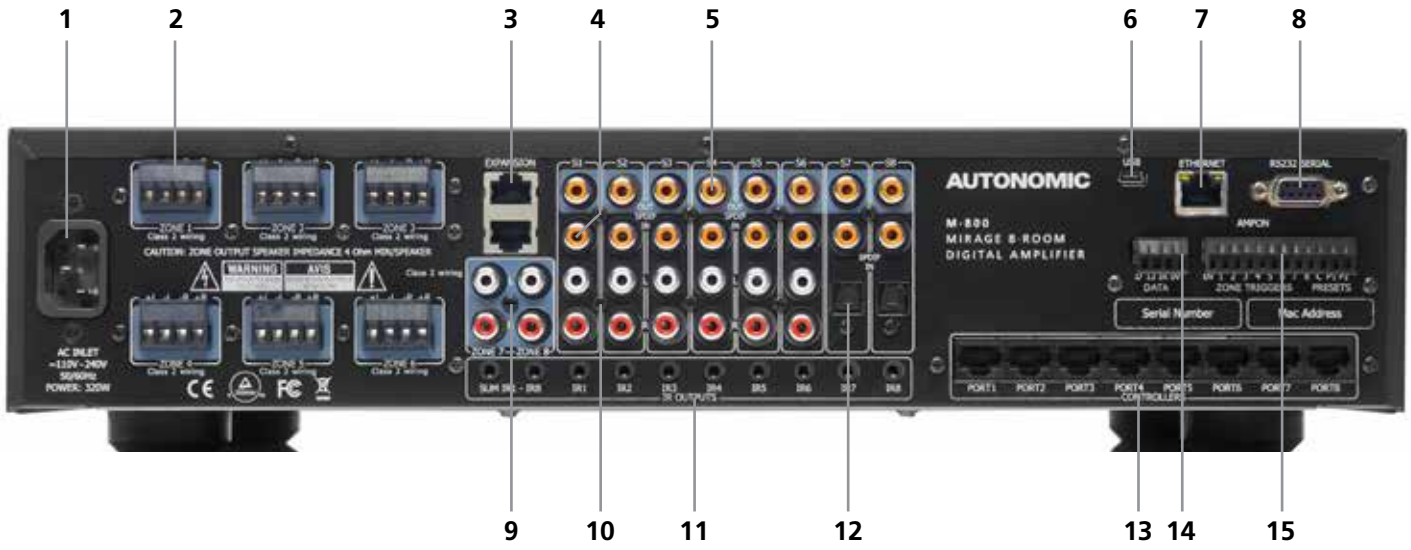
3. **Power Indicator**
   The power indicator glows blue whenever AC power is applied.

4. **2.4" Color LCD Touch Panel display**
   LCD touch panel display for menu guided control and programming. The display is dimmed to "Off" after 15 minutes of inactivity.

5. **Removable Chassis Feet**
   Set high enough to provide unrestricted air-flow through the chassis for convection cooling.

6. **Rack Mount Ears (Optional)**
   Rack mount ears not depicted.

REAR PANEL GUIDE



1. **AC Inlet**
   IEC socket

2. **Speaker Terminals**
   Plug in terminal clamp connectors accept 1.5mm² speaker wires.

3. **Expansion Bus**
   RJ45 patch cable connects between expansion bus ports of amplifiers in a stack.

4. **Coax Digital Input Terminals**
   Coax digital (SPDIF) inputs.

5. **Coax Digital Source Output Terminals**
   Coax digital outputs for expansion to further amplifier zones.

6. **USB for programming**
   USB mini B socket for programming and firmware updates.

7. **Ethernet Port**
   This port is used for control, monitoring and data access.

8. **RS232 Communication Port**
   The port is used for setup, control or monitoring. A straight through cable must be used when connecting to a PC or control system.

9. **Zone Preamplifier Out**
   Analog audio L/R Zone 7 and 8 outputs.

10. **Analog Input Terminals**
    Analog audio L/R inputs

11. **IR Emitter Ports**
    3.5mm mono jacks. IR9 & IR10 ports output the combined IR1 – IR6 infra-red strings. Ports are not usable but are future ready for IR routing.

12. **Optical Digital Inputs**
    Optical (TOSLINK) digital inputs.

13. **Controller Interface**
    For connection to keypads and IR receivers. 8 controller interface ports - RJ45 sockets.

14. **Bus Run Controller Interface**
    For future use.

15. **Zone Triggers**

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TYPICAL SYSTEM CONFIGURATION

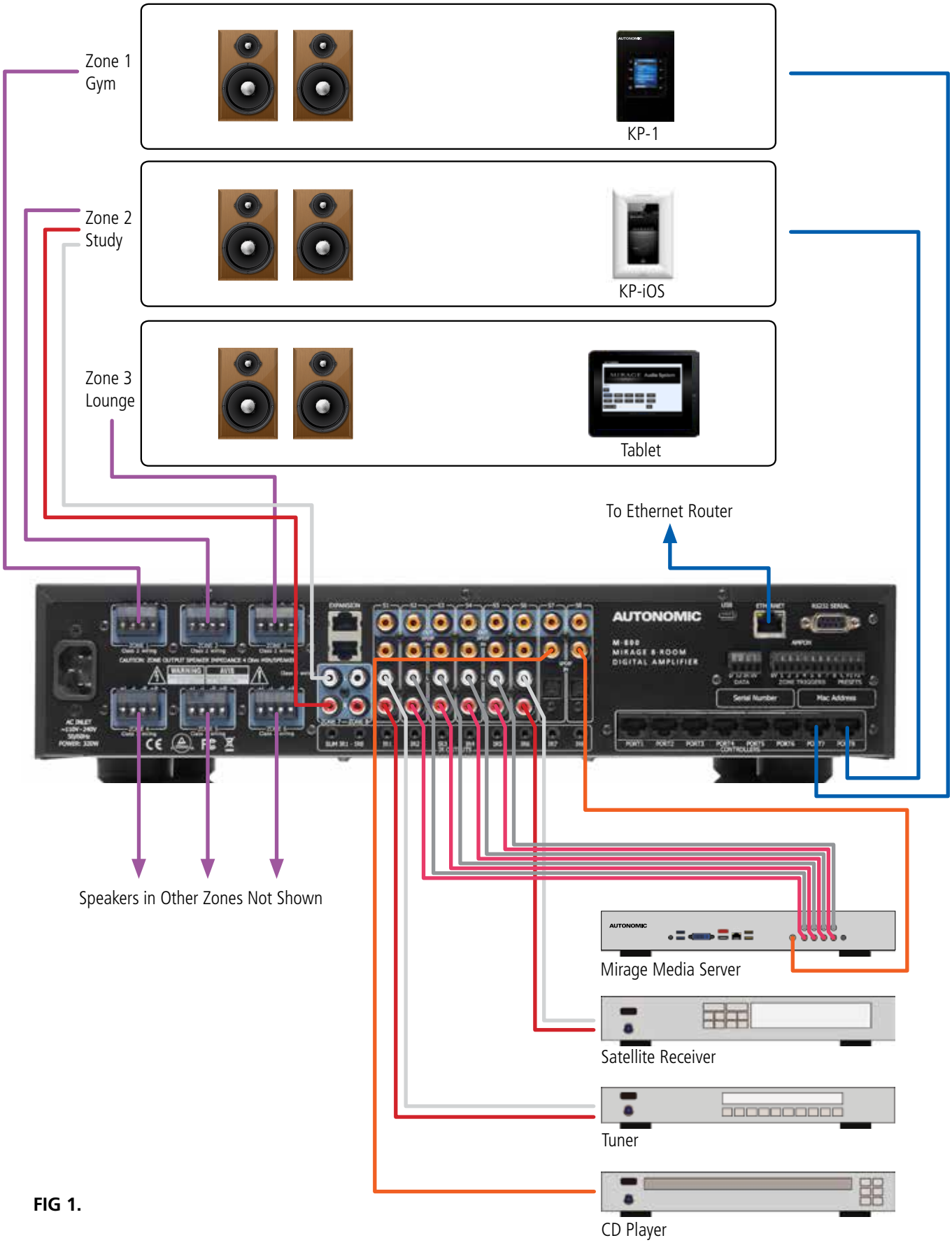

FIG 1.

Fig 1 depicts a typical configuration where the M-800 amplifier is providing audio into six of the possible eight listening zones. Only three of the zones are depicted.

Each zone consists of a room with a pair of speakers and a suitable controller. Each zone may be listening on any of the connected sources:

- Mirage Media Server
- Satellite Receiver
- Tuner
- CD Player

Controllers

Each zone has a specific control requirement.
Choose controllers that best suit the application.

Zone 1 – The Gym: Speakers and KP-1 Keypad
Zone 2 – The Study: Speakers and KP-iOS Keypad
Zone 3 – The Lounge: Speakers and Tablet

- The KP-iOS Keypad may be plugged into any of the eight controller ports.
- Source control IR emitters are plugged into the IR ports. There are ten IR ports: IR1 - IR8, and IR9 & IR10.
- IR 1 – 8 route source specific IR signals from connected controllers, while IR9 & IR10 output the common IR or the sum of all received IR signals.
- These ports may be used for source equipment that is common to all zones.

When controlling a stand alone M-800 using an iPad or other web tablet, the M-800 must be connected to a wi-fi enabled ethernet router and the web tablet browser must be directed to the M-800's IP Address. The M-800's web application also provides source control functionality.

Speakers

Speakers in each zone are connected to the amplifier by "Home Run" speaker cables.

Source Equipment

The M-800 amplifier has six stereo RCA audio inputs for connecting to source equipment. These input channels feature coax digital inputs. If a signal is present on the digital input, it takes precedence over the analog input. There are two additional Digital only input channels featuring both coax and Optical inputs. Any source can be listened to in any zone, simultaneously.

All eight zones may select the same source, in such circumstances there is a possibility that all eight zones may be trying to control that source (not always desirable) so a system should be well planned and where appropriate additional source equipment installed.

Preamplifier Zone Outputs

The preamplifier output zones are completely independent of the digital amplifier zones. These can optionally be used for locations where a high or lower power amplifier / speaker would be required. A third party power amplifier is required to power the zone speakers. Alternatively a preamplifier zone may be zone linked to one of the digital amplifier zones, and provide line level outputs to the zones subwoofer.

Mirage Media Server

When pairing your M-800 amplifier with a Mirage Media Server, be sure to use the Mirage Media Server's web configuration Sources page and follow the pairing process there. This will ensure full control via the Mirage iOS and Android applications.

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MULTIPLE AMPLIFIER STACKS

Linking to the next M-800 or M-400 Multi-Zone Amplifier

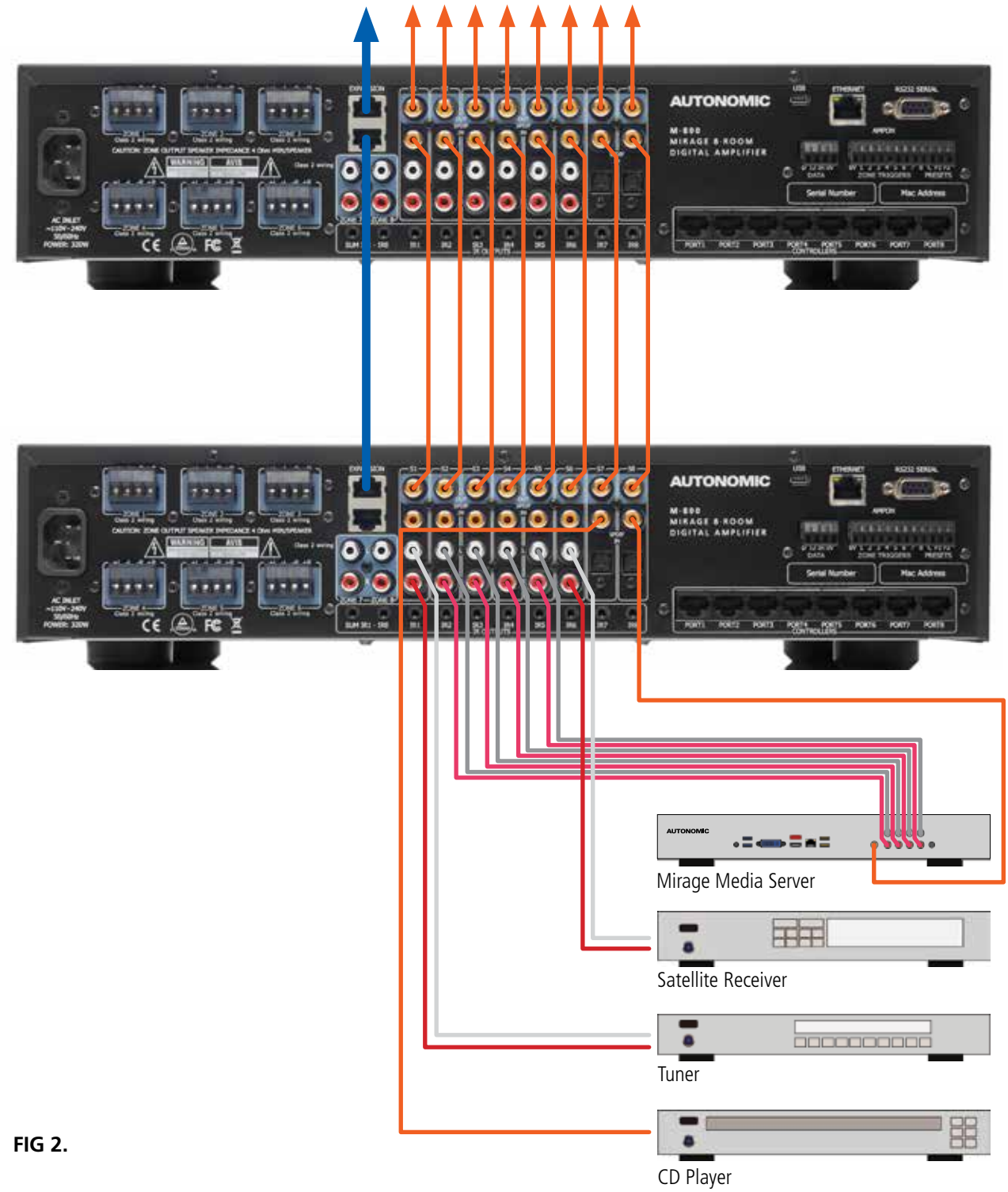

FIG 2.

In large installations where multiple M-800 amplifiers are required, the expansion bus may be used to convey inter-amplifier control, and common IR control.
The source equipment audio inputs must be plugged into the first amplifier where they are buffered and sent to the next amplifier in the stack. The maximum recommended expansion is twelve units.

Fig 2 shows inter-connected amplifiers using an RJ45 expansion bus lead, and RCA leads for the source digital coax signals.
Amplifier control using ethernet, RS232 or USB may be connected to any one of the M-800's in the stack.

The M-800 is packed with control options:

» **USB:**
Intended for initial installation Programming or firmware update. Not intended for permanent connection to a PC or other control system.

» **ETHERNET:**
100BaseT connection to a home network router or switch.

» **RS232 Serial:**
Electrically isolated prevents hum in analog input circuits.

» **CONTROLLERS:**
Conveys +12VDC, IR and data between the M-800 and KP-1 keypad controllers, connected using CAT5 cables.

» **BUS RUN:**
For future use.

» **TRIGGERS:**
+12VDC 100mA trigger output when a zone is on.

» **EXPANSION BUS:**
Simple patch cable interconnection for Autonomic Amplifiers that conveys control and data between Amplifiers in a stack. (Fig. 4)

FIG 3.

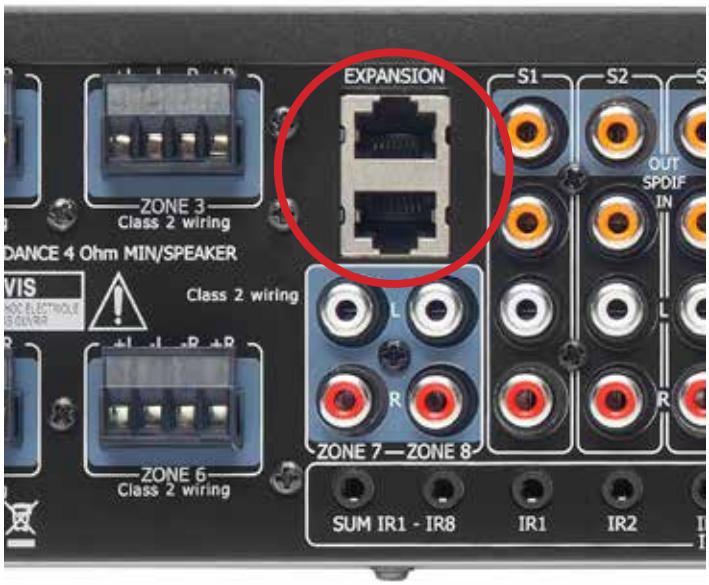

FIG 4.

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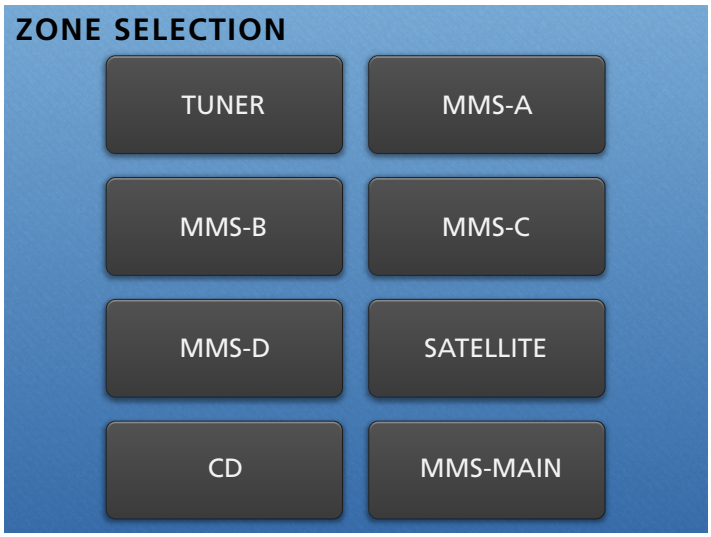
Front Panel User Interface:
The M-800 amplifier has a 2.4" Touch Panel LCD color display which is used for control and accessing status of all amplifier functions.
After 2 minutes of inactivity the LCD dims to 50% brightness. After a further 15 minutes it dims OFF.
A touch of the screen will restore the LCD to full brightness, enabling touch control.

Home Page

The Home page provides access to the Amplifier Zones: Zone1 - Zone 8.
In this example, Tuner, MMS-A, MMS-B, MMS-C, MMS-D, Satellite, CD and MMS-Main.
Selecting a Zone opens its control page.

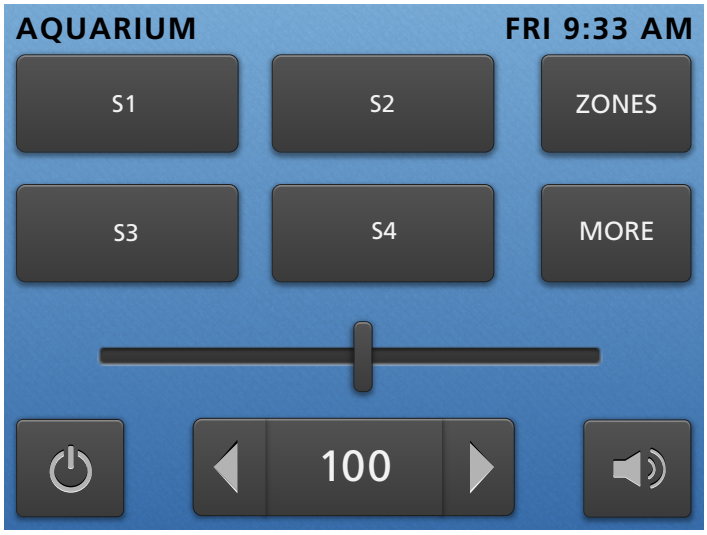


Zone Control Page

The top of the Control page displays the Zone as well as the current time & day.
The "Zones" button will return you to the home page.
The Zone Control page provides status & control for the selected zones:

- Standby
- Volume Slider
- Volume Up / Down with Digit readout
- Source Selects S1 – S4
- More button S5 - S8
- Mute

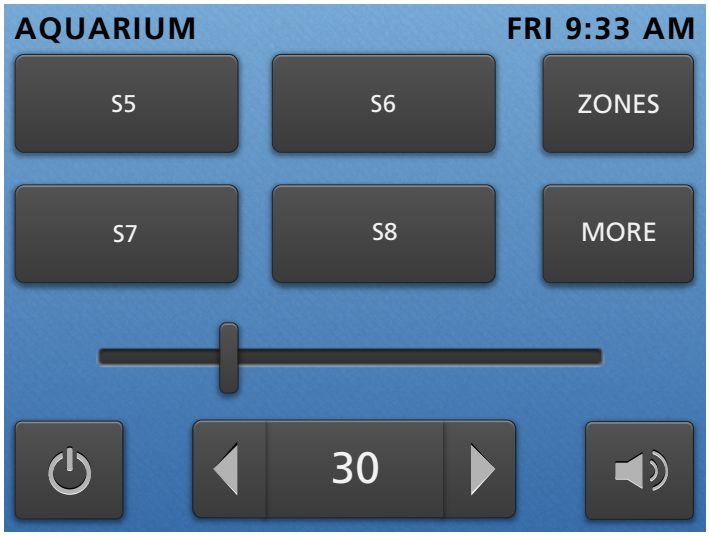
If the button has blue text with a white glow behind the button, it indicates selection or ON status.
The Volume Slider changes color as the volume increases,
i.e. Green –Yellow – Red.



Zone Control Page (More)

Selecting the "More" button will display the next set of sources: S5 – S8. To change the selected source, simply push a Source button.

If the "More" button is selected again the source selection loops back to the start: S1 – S4.



More Functions Page

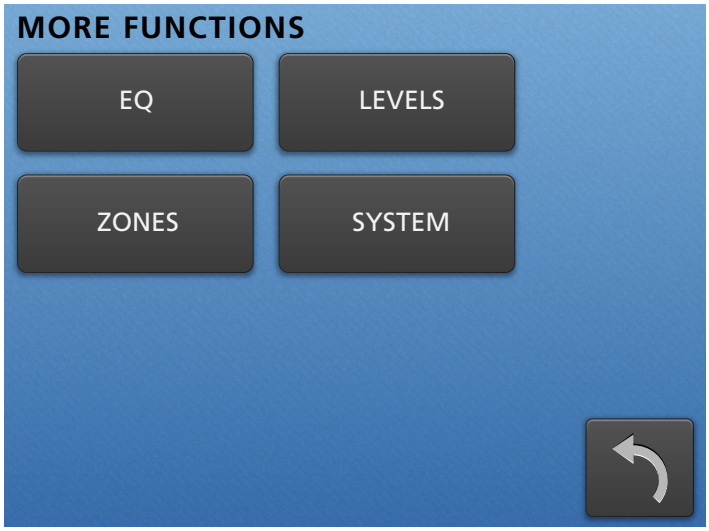
When the "More" button is pressed and held for more then 1 second a More Functions page opens.

There are three Zone specific functions that when selected navigate to setup pages:

- » EQ
- » Levels
- » Zones

There is also a System function which is not zone specific. The System page is covered later. Note: System functions may be accessed via any of the Zones "More Functions" pages.

The Back Arrow button returns to the Zone Control page.

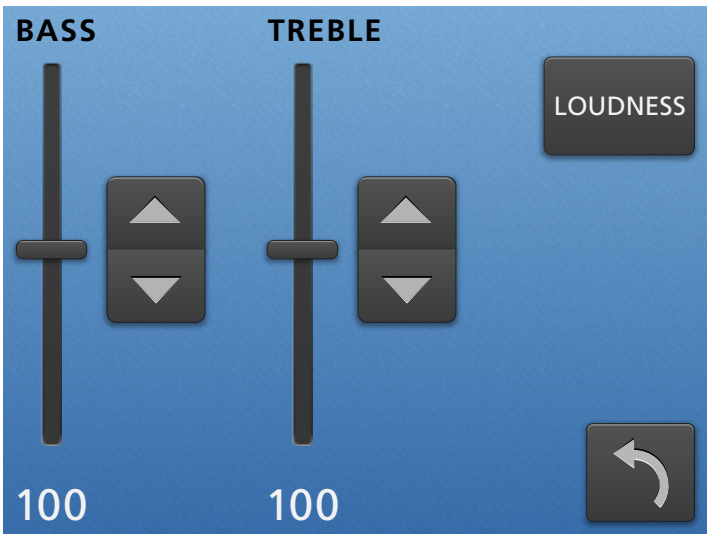


EQ Setup Page

The EQ setup page provides status & control for the selected Zones:

- » Bass ± 12dB using Slider or Up/Down button
- » Treble ±12dB using slider or Up/Down Button
- » Loudness Control – toggle.

The Back arrow button returns to the More Functions page.



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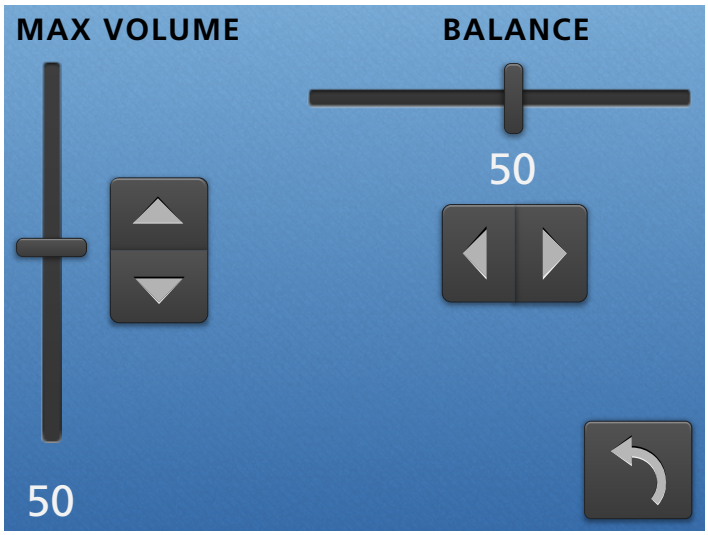
Levels Setup Page

The Levels setup page provides status & control for the selected zones:

- » Balance ±20dB using slider or Left/Right button
- » Maximum Volume Limiting – can be reduced over the range from 100 to the minimum of 2 using the slider or Up/Down button.

The Back arrow button returns to the More Functions page.



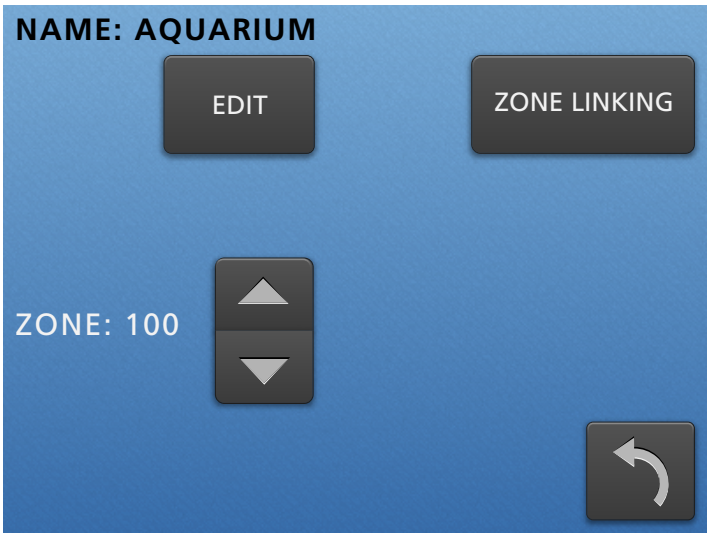
Zones Setup Page

Zones setup page allows you to edit the name and set the Zone coding. There is also a button for zone linking setup.

To change the Zone allocation simply make the adjustment using the Up/Down button.

To name the Zone, select "Edit" and the Zone Name page opens.

The Back arrow button returns to the More Functions page.



Zone Name Page

Use the keypad to enter the name text,
The limit is 15 regular ASCII characters.

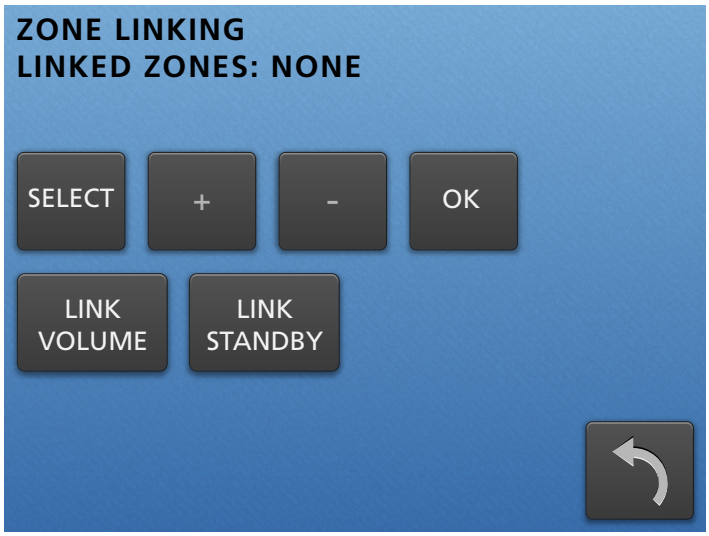
Once entered, select the back arrow to return to the Zones Setup page.

Zone Linking

The Zone may be linked with any other zone or zones. Make the selection by scrolling through the zone list and choosing OK.

The Type of Zone Linking:

- » Link Volume or Link Standby may be selected.
- » When Link volume is selected the linked zone(s) will track the source and volume settings.
- » When Link Standby is selected the Linked Zone(s) will behave as if they are the same zone.
- » Once entered, select the back arrow to return to the Zones Setup Page.

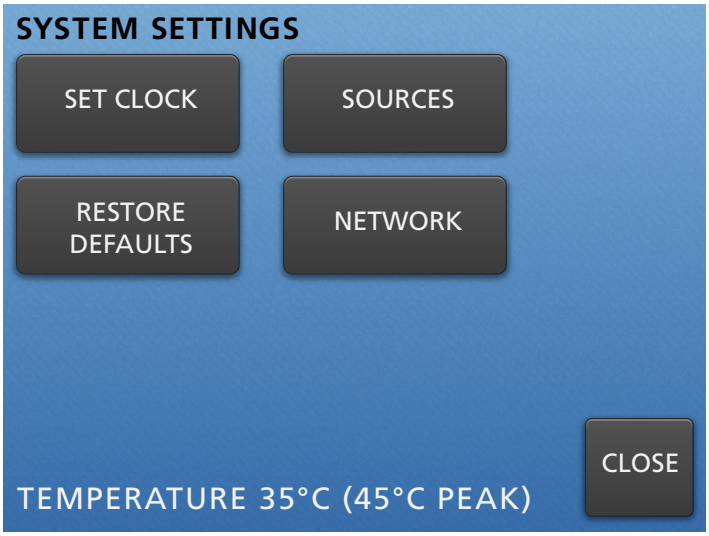


System Page

The System Settings page opens when the System button is selected in any of the "More Function" pages for longer than 5 seconds. The system settings are Zone independent functions.

The internal amplifier heatsink temperature is displayed at the bottom of the page.

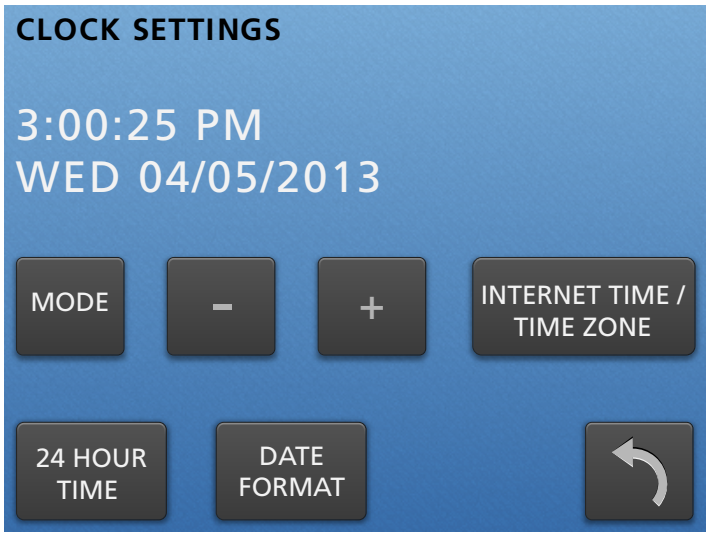
Select the Close button to return to the Zone page.



Set Clock Page

The clocks time and time zone is automatically synchronized when connected to the internet or to a PC using the USB connection. However, the clock settings and how the clock is displayed may be adjusted.

Select the Back arrow to return to the System Settings page.



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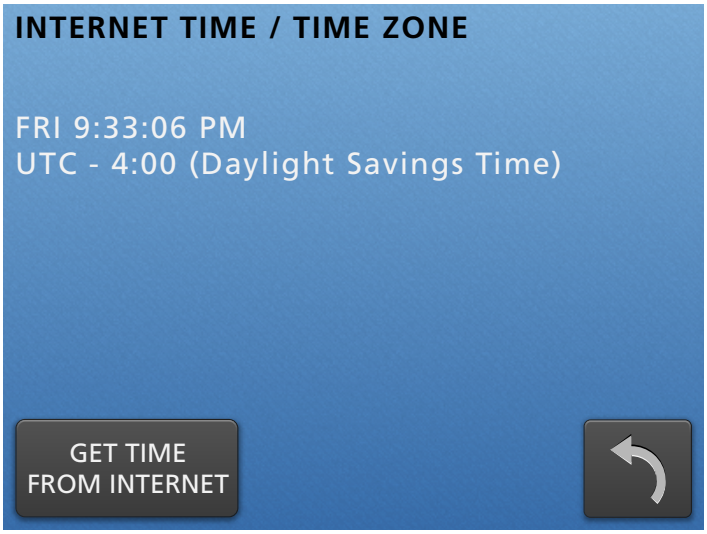
NTP Settings

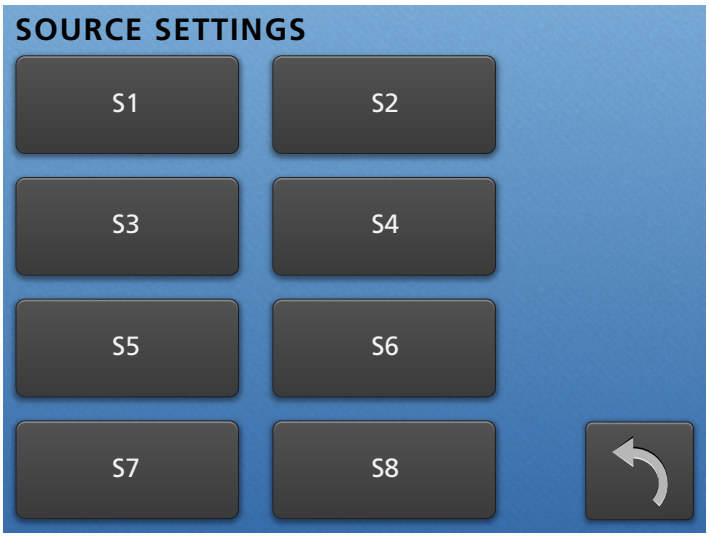
Update the time and time zone using an internet connection.



Sources Settings Page

Select the Source to be adjusted, from S1 – S8.
This opens the Source Edit page.

Or select the Back Arrow to return to the System Settings page.



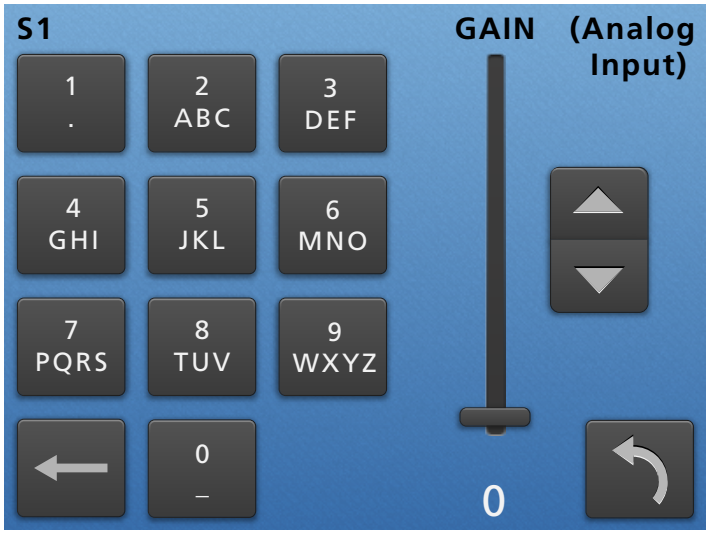
Source Settings Page Cont.

A Source may be named, by using the phone Keypad.
The analog input gain can be adjusted using the Gain slider or Up / Down buttons.

Gain is used to match the analog input levels to the Digital sources. Some Analog sources have large variation in output levels. The 0dB default setting is suitable for connection to high output devices like CD players, while the standard level (1Vrms) is achieved by setting the gain to +6dB.

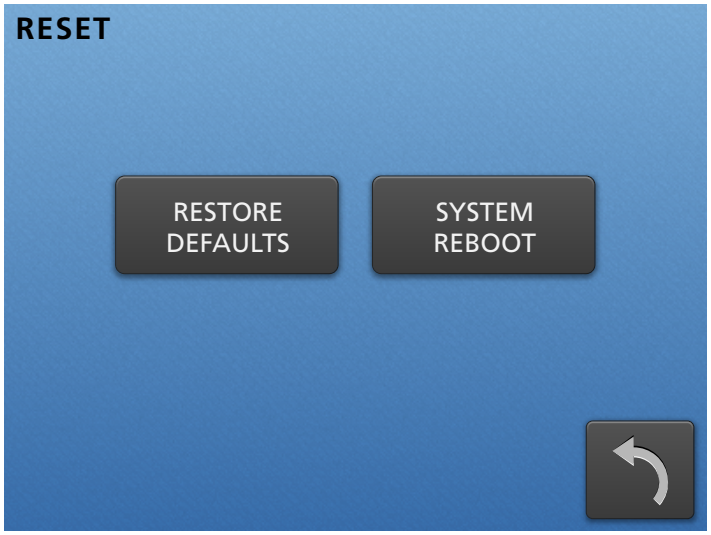
The Gain slider (and source button) will flash red if the gain is set to high and distortion is detected.

Select the Back arrow to return to the System settings Page.



System Reset

Restore your amplifier to factory defaults or reboot the amplifier.



Restore Defaults Page

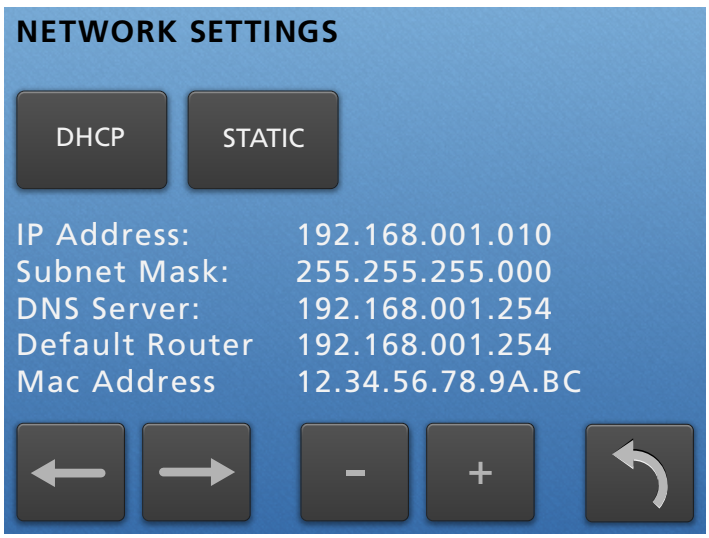
To restore the M-800 to factory defaults select "Yes", or to return to previous menu select "No".

Factory defaults will reset the zone allocations back to 1 - 8. It clears all settings like Zone Names, Source Names, Maximum Volume Limits, Bass, Treble and Loudness etc.

Network Settings Page

Network setting always defaults to DHCP.
The connected Ethernet router's allocated IP address can be viewed.
If for some reason a Static IP is required the selection can be made, and settings adjusted using the back and forward arrow and plus minus keys.

Select the back arrow to return to the System Settings page.



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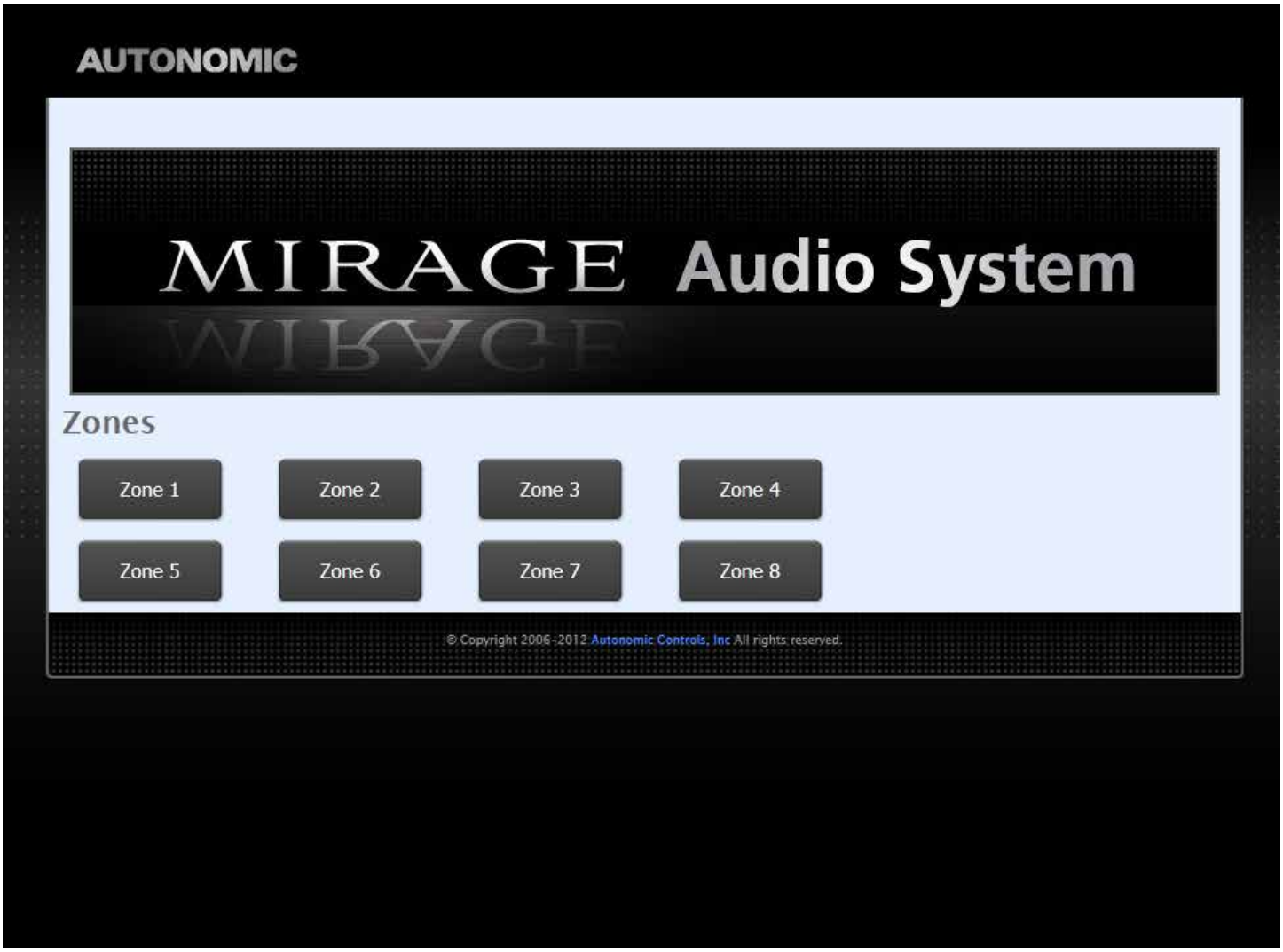
WEB APPLICATION

The M-800 Amplifier has a web application which may be used for control and configuration of the amplifier and source functions.

Zone Selection Page (Home Page)

The Zone Selection page provides access to the Amplifier Zones. To access the web application, simply navigate to **http://ampIP/**. For example, http://192.168.1.54/. Selecting a Zone will highlight the button as shown in the picture below and will open its control page.

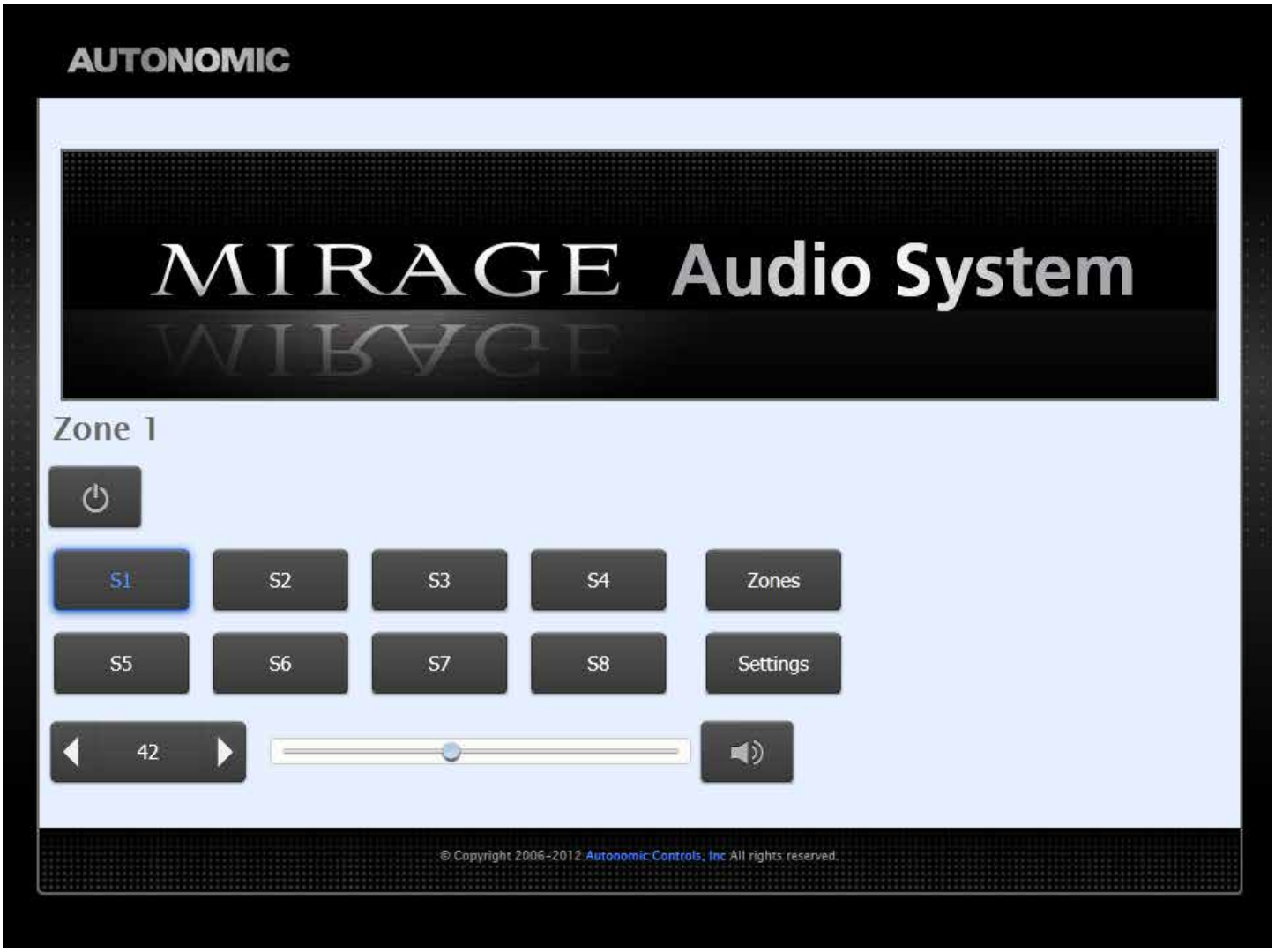


Zone Source Selection Page

The Zone Source Selection page provides status & control of:

- » Standby
- » Volume: Slider or Up/Down button with readout.
- » Source Selection: S1 – S8
- » Mute

If the button displays a blue glow, it indicates selection or ON status. Because of web browser limitations, slider setting changes are made using a positional touch on the slider. The "Zones" button is the Home page return. Selecting the "Settings" button will open the Settings page.



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Zone Settings Page

The Zone Settings page provides status & control of:

- Bass: Slider or Up/Down button
- Treble: Slider or Up/Down button
- Loudness
- Balance: Slider or Left / Right button
- Maximum Volume Limit: Slider or Up/Down button

The Back Arrow button returns to the Zone Control page.

Amp Settings Page

The M-800 amplifier has a settings page which may be used to change the following:

- » Amp network name
- » Amp IP settings, Including static IP
- » Time Settings

The Amplifier Settings page provides acess to the device information and Date & Time. The configuration web interface can be found at, **http://<amp-ip>/config/** where <amp-ip> is the IP address of the amp.
For example, http://192.168.1.54/config/

AUTONOMIC
Amplifier Settings
Source Settings
Zone Settings
MIRAGE Audio System
Amplifier Settings
Device Information
Amp Model M800
Amp ID 6
Amp Firmware Version 1.0 beta 4
Amp Temperature 29°C (peak 30°C)
MAC Address 00:50:C2:A8:A2:36
Wired Ethernet – 192.168.1.228
Amp Network Name M800-6
Connection: Automatic Configuration (DHCP)
Date and Time
Date Wednesday, October 10, 2012 6:49:40 PM
Observe DST
NTP Server north-america.pool.ntp.org
Save Changes
Undo Changes
Device Information
This contains specific information about this device including network name and ID, Firmware version, current and peak temperatures, and MAC address.
Wired Ethernet
Configure this device for DHCP or a static IP. Static IP settings will appear when Static is selected in the drop-down.
Date and Time
Configure this device's NTP server and whether it observes Daylight Saving Time. Time zone information is determined based on your computer's time zone.
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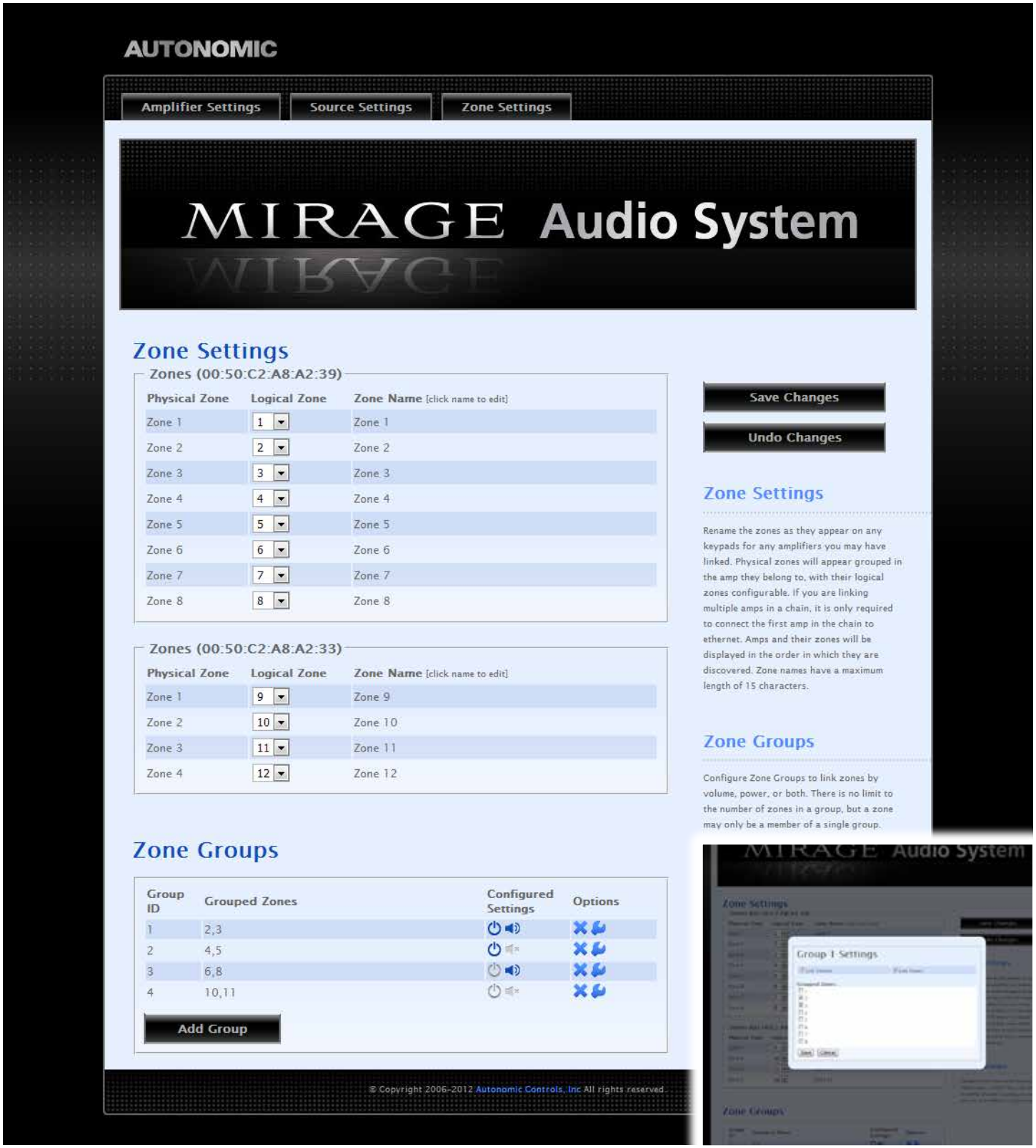
Amplifier Source Settings

The Amplifier Source Settings page allows you to rename the audio sources on the amplifier as they appear on any keypads you may have.

Amplifier Zone Settings

The Amplifier Zone Settings page allows you to rename the zones as they appear on any keypads for any amplifiers you may have linked. Physical zones will appear grouped with the Amplifier they belong to, with their logical zones configurable. If you are linking multiple Amplifiers in a chain, it is only required to connect the first amp in the chain to ethernet. It is reccomended that you connect only one Amplifier of a chain to ethernet.

Zone Groups allows control of multiple zones at once, as well as linking of volume and/or power. To add a group click Add Group. In the pop up box you can select from a list of zones. You can also configure whether volume and power are linked. When finished click Save. To edit a Zone Group, click on the wrench.


AUTONOMIC
Amplifier Settings
Source Settings
Zone Settings
MIRAGE Audio System
Zone Settings
Zones (00:50:C2:A8:A2:39)
Physical Zone
Logical Zone
Zone Name [click name to edit]
Zone 1 1 Zone 1
Zone 2 2 Zone 2
Zone 3 3 Zone 3
Zone 4 4 Zone 4
Zone 5 5 Zone 5
Zone 6 6 Zone 6
Zone 7 7 Zone 7
Zone 8 8 Zone 8
Zones (00:50:C2:A8:A2:33)
Physical Zone
Logical Zone
Zone Name [click name to edit]
Zone 1 9 Zone 9
Zone 2 10 Zone 10
Zone 3 11 Zone 11
Zone 4 12 Zone 12
Save Changes
Undo Changes
Zone Settings
Rename the zones as they appear on any keypads for any amplifiers you may have linked. Physical zones will appear grouped in the amp they belong to, with their logical zones configurable. If you are linking multiple amps in a chain, it is only required to connect the first amp in the chain to ethernet. Amps and their zones will be displayed in the order in which they are discovered. Zone names have a maximum length of 15 characters.
Zone Groups
Configure Zone Groups to link zones by volume, power, or both. There is no limit to the number of zones in a group, but a zone may only be a member of a single group.
Zone Groups
Group ID
Grouped Zones
Configured Settings
Options
1 2,3
2 4,5
3 6,8
4 10,11
Add Group
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MIRAGE Audio System
Zone Settings
Group 1 Settings
Zone Groups

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ETHERNET / RS232 PROTOCOL

The RS232 serial port provides data acquisition and control of the Mirage amplifiers by a home automation system, or PC. The interconnecting cable must be "Straight Through". For Ethernet, TCP port 17037 is used.

Baud Rate = 9600, Characters are all ASCII.

Command Structure: <**command**> <**zone**> <**data**> <**line feed>**

Command

Command	Description
01	Standby
02	Mute
03	Source Selection
04	Volume
05	Bass
06	Treble
07	Balance
09	Send All parameters
0B	Cause key press on Keypad
0C	Amplifier features
0D	Maximum Volume Limit
11	Volume Up
12	Volume Down
14	Request Device information
1C	Zone Name
1D	Preamplifier Volume Mode
26	Volume BCD format

Zone

Amplifiers are encoded with up to 32 zones.
The zone byte is used for checking if the command is applicable to the device receiving the command and if so, for optionally selecting a "sub-device", e.g. a bank or part of a device. All Zones are addressed using FF.
The lower 5 bits of the zone byte represent the zone 0 – 31

selection, i.e:

- 00000 bin = 00 (hex) = zone 0
- 00001 bin = 01 (hex) = zone 1
- 01010 bin = 0A (hex) = zone 10
- 11111 bin = 1F (hex) = zone 31

Examples:

Addressing a zone 10 amplifier: Binary 000-01010 or 0A hex	Send ASCII "0A"
Addressing all Zone amp & preamplifier: FF hex	Send ASCII "FF"

Data

Command	Content	
Standby (01)	**00** – Standby OFF **01** – Standby ON **04** – Toggle	
Mute (02)	**00** – Mute **01** – Un-mute **02** – Toggle Mute	
Source Selection (03)	**00** – S5 **01** – S6 **02** – S7 **03** – S4 **04** – S8 **05** – S1	**06** – S2 **07** – S3
Volume (04)	**00 – A0** range	
Bass (05)	**F4 – 0C** (-12db - +12db)	
Treble (06)	**F4 – 0C** (-12db - +12db)	
Balance (07)	**EC – 14** (Left –20db – Right –20db)	
Send all parameters (09)	**XX – value ignored**	
Amplifier features (0C)	**00** – Loudness Enabled **01** – Loudness Disabled	
Maximum Volume Limit (0D)	**00 – A0** Range	
Volume Up (11)	**XX** – Value Ignored	
Volume Down (12)	**XX** – Value Ignored	
Zone Name (1C)	Data field contains the ASCII string.	
Preamplifier Volume Mode (1D)	**00 – A0** Range **FF** = Independent Mode	

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Notes

- » Commands are used as notifications. If an amplifier is switched ON, it will notify the other devices on the Control Bus by sending the Standby command (01). Any amplifiers with the same zone will take the notification as a command and also switch ON.
- » When a command is sent to an amplifier it will first be transmitted on the control bus and then returned to the PC (Home Automation System). If an error occurs an error will be returned instead of the original command. The PC (Home Automation System) needs to ignore its command when it is returned.
- » A Standby ON command implies that the amplifier is not muted, if the amplifier was previously Off, a mute command must follow the Standby command if it is muted.
- » Not all Command and Data commands are covered in this document.
- » The expected reply for the "Send all Parameters" command (09) is >144 bytes. All command fields listed in this document are contained in the reply. The reply also contains advanced commands not listed in this document. The home Automation or PC's buffer should be large enough to receive and process the 144-byte reply.

1. Zone 2 links to Zone 3
2. Since Zone 2 is no longer linked to Zone 1, Zone 1 will no longer be linked to Zone 2.
3. Since Zone 3 is no longer linked to zone 4, Zone 4 will no longer be linked to Zone 3.

Example strings:

- » 010A01: Standby ON command for Zone 10 amplifier.
- » 012A01: Standby ON command for Zone 10 preamplifier.
- » 060002: +2db Treble setting on Zone 0.
- » 03IF02: Tuner source selection on Zone 31.

SPECIFICATIONS

Amplifier Section

Rated Output Power (FTC)
All Channels ..... 50 Watts / channel, 8Ω loads,

THD (Total Harmonic Distortion) ..... 0.1% (40 Watt, 8Ω load)
Speaker Impedance (Z1 – Z6 L/R) ..... 4Ω - 8Ω
Input Sensitivity and Impedance
(S1 – S6 L/R) ..... 0.72 V / 22KΩ (Unbalanced)
Coax digital input level and Impedance ..... 0.5V ± 0.05V / 75Ω
Preamplifier Output Level
and Impedance (Z7 & Z8 L/R) .....+16dB / 470Ω
Frequency Response .....20Hz – 20 KHz / – 3dB (8Ω)
Tone Control.....±12dB, 100 Hz (Bass)
±12dB, 10 KHz (Treble)
Signal to Noise Ratio .....100dB (IHA-A, 1V input / unbalanced)

Interface

IR Output ..... Ten 3.5mm Jack: IR1 – IR10 current limited to 25mA.
Expansion Bus ..... One Dual RJ45 Socket: Control I/O, Summed IR.
Ethernet ..... One Shielded RJ45 socket – 100Base T
RS232 ..... One Isolated DB9 – 9600 Baud
USB ..... One USB mini-B 5 pin
Controller ..... One: 4 way terminal blocks (0V, IR, 12V & Data).
Amp On & PG Control ..... One: 10 way terminal plug with Amp ON 1 – 8
contact closure inputs: PG1 & PG2.

General

Power Supply ..... 110 – 240VAC 50/60 HZ
Power Consumption ..... 320 W
Standby Power Consumption 6W
Dimensions ..... 435 x 90 x 390 mm
Height including feet 105mm
Weight 7Kg

Specifications and features are subject to change without notice.

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